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# Participatory Rapid Horticulture Appraisal Report



**The Agribusiness Project**

Lahore Project Region  
**August 2012**



## Abbreviations

<b>ASF</b>	Agribusiness Support Fund
<b>FGD</b>	Focused Group Discussion
<b>LPR</b>	Lahore Project Region
<b>MINFA</b>	Ministry of Food and Agriculture
<b>NPC</b>	Nominal Protection Coefficient
<b>PRHA</b>	Participatory Rapid Horticulture Appraisal
<b>USAID</b>	United States Agency for International Development

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# Executive Summary

The Agribusiness Project is an initiative funded by United States Agency for International Development (USAID) and is being implemented by Agribusiness Support Fund (ASF) in collaboration with international and national organizations. The overall goal of the Project is to support improved conditions for broad-based economic growth, create employment opportunities and contribute to poverty alleviation through increase in competitiveness of horticulture and livestock value chains in partnership with all stakeholders. During the first year of this five-year (2011-16) project, a preparatory program was undertaken to gauge the potential of the sub-sector and to prioritize value chains in the context of various project regions including the project region of Lahore. Findings from Participatory Rapid Horticulture Appraisal (PRHA) will enable the project to identify and prioritize; horticulture and livestock value chains, opportunities, constraints; and state of the business development services to provide required basis for focusing project interventions. Lahore region comprises of 12 districts and stretches from central to north of the province.

Within the framework of the cluster and value chain approach, a two-prong approach was adopted, first preparation for PRHA exercise in the field and second to collect secondary data and develop appropriate tools for quantification of factors so that it can be measured on a scale for ranking/prioritization. This report pertains to work completed based on both secondary data and primary appraisals of horticulture sub-sector.

The PRHA methodology provides for probing, analysis, and validation of information as they unfold during the field work. Seven factors were applied in the prioritization of value chain. These include; (i) extent of employment generation; (ii) commercial worth; (iii) percentage of small farmers associated, (iv) women involvement; (v) households associated with the value chains; (vi) understanding growth potential; and, (vii) vulnerability of the concerned value chains. Covering 50% of the districts, the exercise was undertaken in the randomly selected settlement/villages within each cluster/region. Each focus group consisted of 10-15 stakeholders, a representative sample of sub-sector. In each district, 2-3 FGDs were carried out. The analysis of secondary data is based on the district-wise data on area and production for last ten years which was collected and tabulated as time series data.

Based on the analysis of both secondary and primary information, it can be concluded that guava, citrus, strawberry, cut flower and potato are the priority value chains in the region of Lahore. Guava is the top most prioritised value chain of the region having about 96% of the produce being commercialised. About 58% small farmers are associated with it. Citrus is a very important fruit of the region. About 99.5% of its produce is commercialised and more than 42% farmers are dependent on it. As compared to other fruits, strawberry is a relatively new crop and over the past 5 years a 100% increase in its growth has been recorded. It is mostly grown by small farmers; as recorded during FGDs, 85% of the small farmers are associated with strawberry production. Female involvement in the crop is about 85%. A number of opportunities exist, in the region, which can catalyze the development of the sub-sector. Of them the most important are:

- Processing centres
- Better post-harvest handling/ processing of fruit
- Modern technologies (tunnel and drip)
- Availability of cold storages and market infrastructure
- Export centres

These opportunities can be further reinforced through the project interventions leveraged by primary-sector investments provided that a holistic and integrated approach is applied. Some of the constraints hampering the development of fruit sub-sector are:

- Very few cold chain facility and high cost of transportation
- Limited financial resources
- Low capacity building and awareness level of farmers
- Weak international market linkages
- High prices of farm inputs (seed, fertilizers, water, electricity)
- Limited access to and affordability of modern technologies
- Few processing units for fruits

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<sup>1</sup> Lahore, Sheikhpura, Nankana Sahib, Kasur, Okara, Pakpattan, Sahiwal, Gujranwal, Hafizabad, Narowal, Sialkot, Gujrat



Most constraints are cross-cutting and generic in nature which provide information on the overall sub-sector and some of the constraints can be considered as opportunities for investment by the project provided that willingness in the private sector for investment exists.

In general all variety of vegetables are grown in almost all districts of the region. Potato is highest cultivated vegetable crop in Lahore region and confirms that more than half of Potato production in Punjab takes place in three districts Okara, Pakpattan and Kasur. Major priority opportunities are represented by:

- Processing centres,
- Potential for processing/preservation and export,
- Modern agricultural practices like tunnel farming,
- Cold storage infrastructure and
- Increasing market demand at international level

These opportunities are cross-cutting and investment in these will generate employment and income generation. Some major constraints faced by the vegetable sub-sector are:

- Limited financial resources
- Little capacity building and awareness level of farmers
- Weak international market linkages
- High prices of farm inputs (Seed, fertilizers, water, electricity)
- Limited access to and affordability of modern technologies
- Very few processing and packing/packaging facilities
- Limited transportation and cold chain facilities

These constraints provide opportunities for investment which will not only generate income and employment but also act as drivers for the wider development of the sub-sector. However the key consideration for intervention in addressing the constraint should be private sector investors willing to partner with the project

Pattoki and other areas of Kasur district are the major producers of cut-flower contributing to 90% of the province's production. Gladiolas and rose are mainly cultivated in the region and sold locally. A very little percentage of the cut-flower produce is exported into gulf specifically Dubai due to lack of processing facility and marketing channel. Pakistan is not self-sufficient in the production of cut-flowers and most of the time demand is fulfilled through imports of different cut-flowers like Lilium, Chrysanthemum, etc. There is a high demand in the country and lot of potential exists in the industry which if exploited can yield great profits.

The availability and quality of business development services is important for the overall development of any sub-sector. The situation with regards to services provided for both fruit and vegetables was appraised together with focus groups. In most cases the linkages between service providers and users were termed as weak to medium. To be effective in enhancing profitability of fruit growers, there is a need to build confidence and develop strong linkages of agribusiness with service providers.

Marketing of fruits and vegetables varies from commodity to commodity; however, generally, most of the produce is channelled to local and country markets. Some of the national markets relevant for the regional producers include Rawalpindi, Lahore, Peshawar and Karachi. Demand for fruits and vegetables do exist in the international markets (particularly Gulf countries) but that needs to be tapped after overcoming several constraints related to export. Absence of enabling policies favouring growers (particularly small farmers), ineffective approaches towards improving and sustaining product quality, and lack of reliable updated market information also impede farmers' ability to take maximum benefits they deserve. Lack of market information system has increased the complexity of the marketing system on one hand and brought less return to the farmers on the other. Strengthening market information system can play vital role in increasing returns to the growers of fruits and vegetables, which can ultimately improve the living standard of the rural population and bring prosperity in the country. Exports are considered as a means of surplus disposal mainly channeled from the wholesale markets. Exports endeavors need to be supported by a "grow-for-export" strategy. Again, a well-established market information system can play vital role in this connection.



# Introduction

The Agribusiness Project is an initiative funded through the financial assistance of the American People implemented by United States Agency for International Development (USAID) in collaboration with Agribusiness Support Fund (ASF). The overall goal of the Project is to support improved conditions for broad-based economic growth, create employment opportunities and contribute to poverty alleviation through increase in competitiveness of horticulture and livestock value chains in partnership with all stakeholders. Specific objectives of the project are to; (i) strengthen the capacity in horticulture and livestock value chains to increase sales to domestic and foreign markets; (ii) strengthen the capacity of small holders and farmer enterprises to operate autonomously and effectively; and, (iii) increase agriculture efficiency and productivity through adoption of new farming techniques and technological innovation among targeted beneficiaries.

During the first year of this five-year project, a preparatory program has been launched to gauge the potential of the sub-sector and to prioritize value chains in the context of various project regions. The project planned and conducted Participatory Rapid Horticulture Appraisal/Livestock Appraisal (PRHA/LA) in all the project regions throughout Pakistan. Findings from PRHA/LA will enable the project to identify and prioritize; horticulture and livestock value chains, opportunities, constraint; and state of the business development services to provide required basis for focusing project interventions.

The reports articulate, for each region separately to enable better targeting and focusing project interventions. This report covers the project region of Lahore covering central and northern part of the Punjab province. Within the framework of the cluster and value chain approach, a two-pronged approach was adopted, first preparation for PRHA exercise in the field and second to collect secondary data and develop appropriate tools for quantification of factors so that it can be measured on a scale for ranking/prioritization. This report pertains to work completed based on both secondary data and primary appraisals.

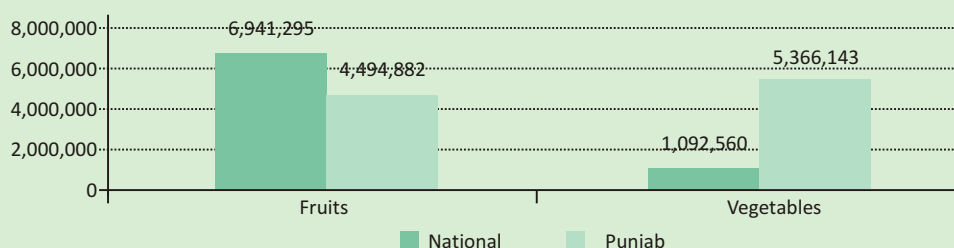


## The Region

Historically fruits and vegetables have had significant potential in the province of Punjab where this sub-sector represent, a major potential for economic growth and development. The Lahore Project Region (LPR) under the project consists of 12<sup>1</sup> districts and stretches from central to north of the province. This project region holds comparative advantage in producing diverse crops, however this comparative advantage need to be translate into competitive advantage, an underlying objectives of The Agribusiness Project.

This project region holds comparative advantage in producing 52.5% guava along with 10.5% citrus in fruits for province Punjab and 82% potato and 41% tomato along with chillies and onion among the vegetables. However this comparative advantage needs to be converted into competitive advantage, one of the prime objectives of The Agribusiness Project.

A comprehensive picture of horticulture in Punjab reflects that, during the year 2010, total area under fruits was 395,933 hectares with annual production estimated at 4,494,882 metric tons, while the total area under vegetables was 311,827 with annual



**Figure 1: Share of Punjab in national production of fruits and vegetables**

(Source: Ministry of Food and Agriculture, GoP)

The Punjab province has about 29% of the total reported, 57% of the total cultivated and 69% of the total cropped area of Pakistan. Among fruits, mango accounts for 66%, citrus more than 95%, guava 82% and dates 34% of total national production of these fruits.

production estimated at 5,366,143 as shown in Figure 1 above.

The total contribution of Lahore Project Region in terms of production volume of guava in fruits was 218,293 Metric Tons during the year 2010. This represents 52.5% share of the total production of



1. Lahore, Sheikhpura, Nankana Sahib, Kasur, Okara, Pakpattan, Sahiwal, Gujranwal, Hafizabad, Narowal, Sialkot, Gujrat



guava in Punjab. By and large Sahiwal, Sheikhupura, Okara, Nankana Sahib and Kasur are the leading district for the production of guava. The region can capitalize on its comparative advantage of being the major guava producing and exporting zone.

The total contribution of the project region of Lahore in terms of production volume of potato in vegetables was 2,426,608 Metric Tons during the year 2010. This represents 82 % and 78 % share of the total production of potato in Punjab and Pakistan respectively. By and large Okara, Kasur, Pakpattan and Sahiwal are the leading district for the production of potato. The region can capitalize on its comparative advantage for maximizing its potential to main markets of the

country as well as export potential to Afghanistan and Central Asian countries.

Trends for area and production for vegetables has been increase in both area and production starting from year 2005 but these gains were dampened due to productivity loss. The share of LR/Punjab in national vegetable production has increased, over the years, in comparison to fruits which have actually shown a decline when compared to its share during the start of last decade.

Guava, citrus, strawberry, cut flower and potato are the five major value chains of the region. Total production of each of these long with their cluster districts is given in Table 1 below.

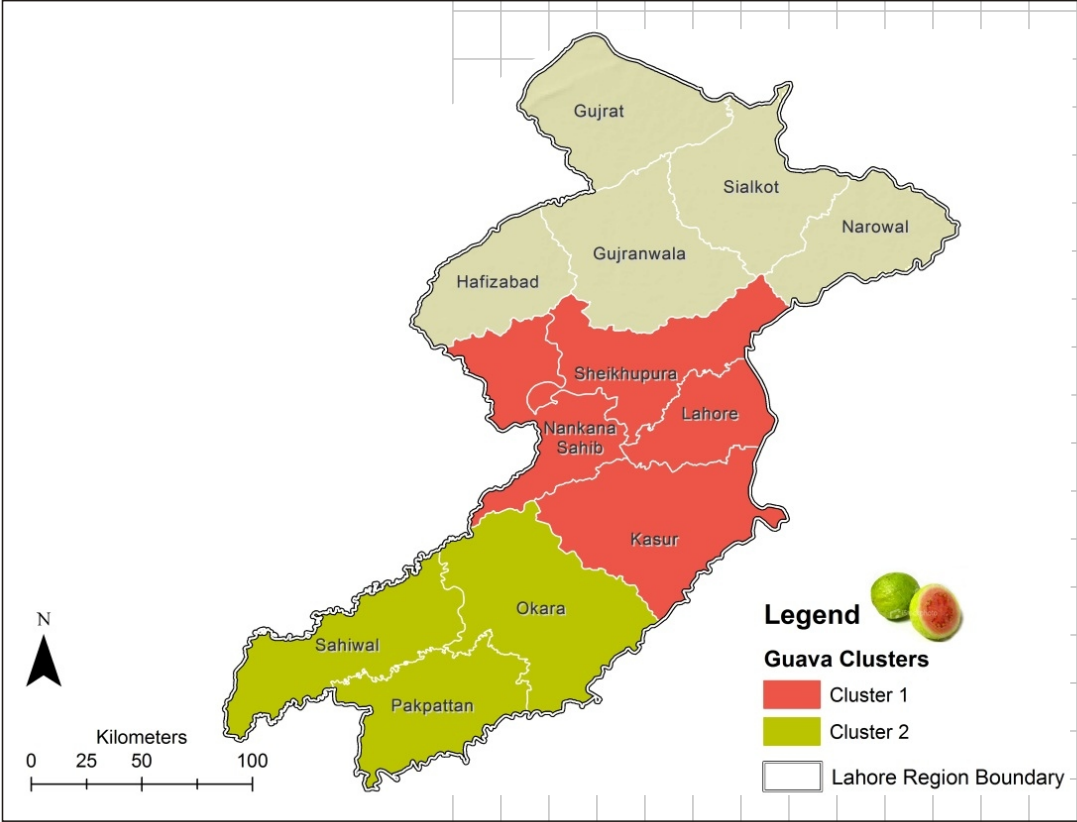
**Table 1: Priority value chains**

S. #	Priority Value Chains (Fruit & Vegetables)	Clusters (Mention Districts)	Total Production (Tons)	% share of the Province	% share of the Country
1	Guava	1) Sheikhupura, Nankana Shaib, Kasur, Lahore 2) Sahiwal, Okara, Pakpattan	186,009	47	36
2	Citrus	1) Sahiwal, Okara, Pakpattan	156,845	8	7
3	Strawberry	1) Sheikhupura (Sharaqura), Lahore (Faizpur)	146,880	7	7
4	Cut Flower	1) Kasur (Pattoki)			
5	Potato	1) Sahiwal, Okara, Pakpattan	1,792,304	64	61

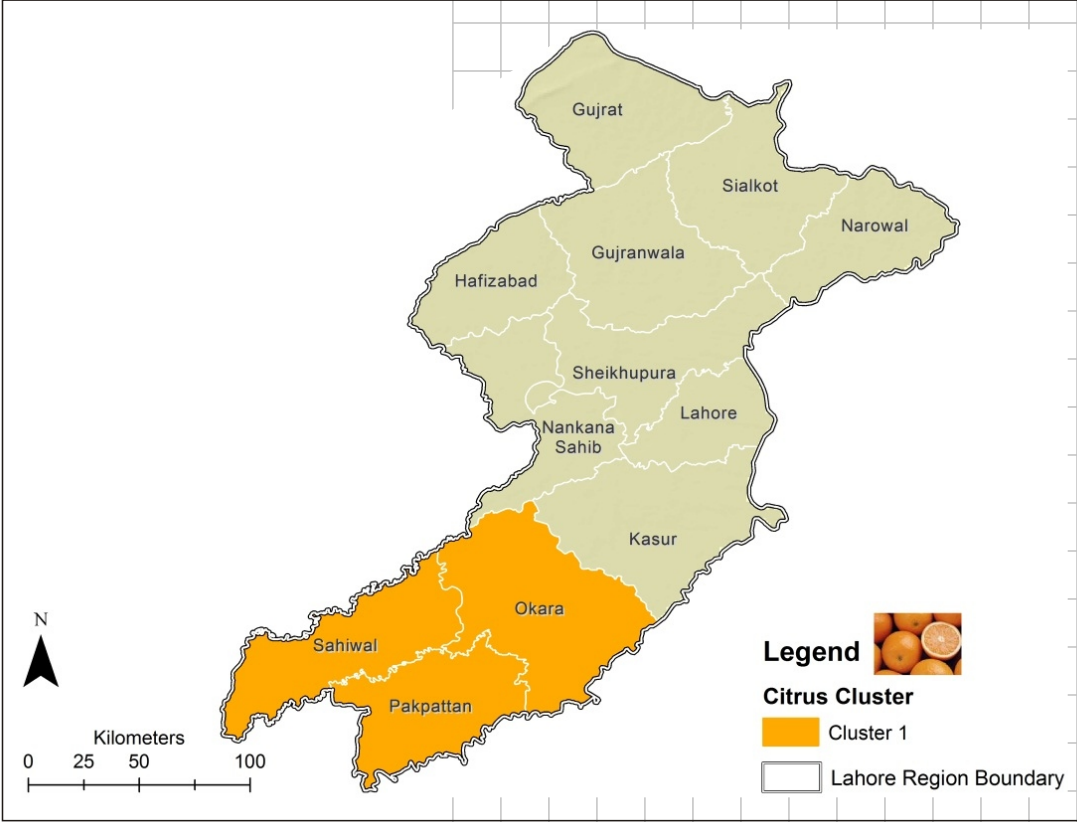
(Source: MINFA, Pakistan 2008-09)



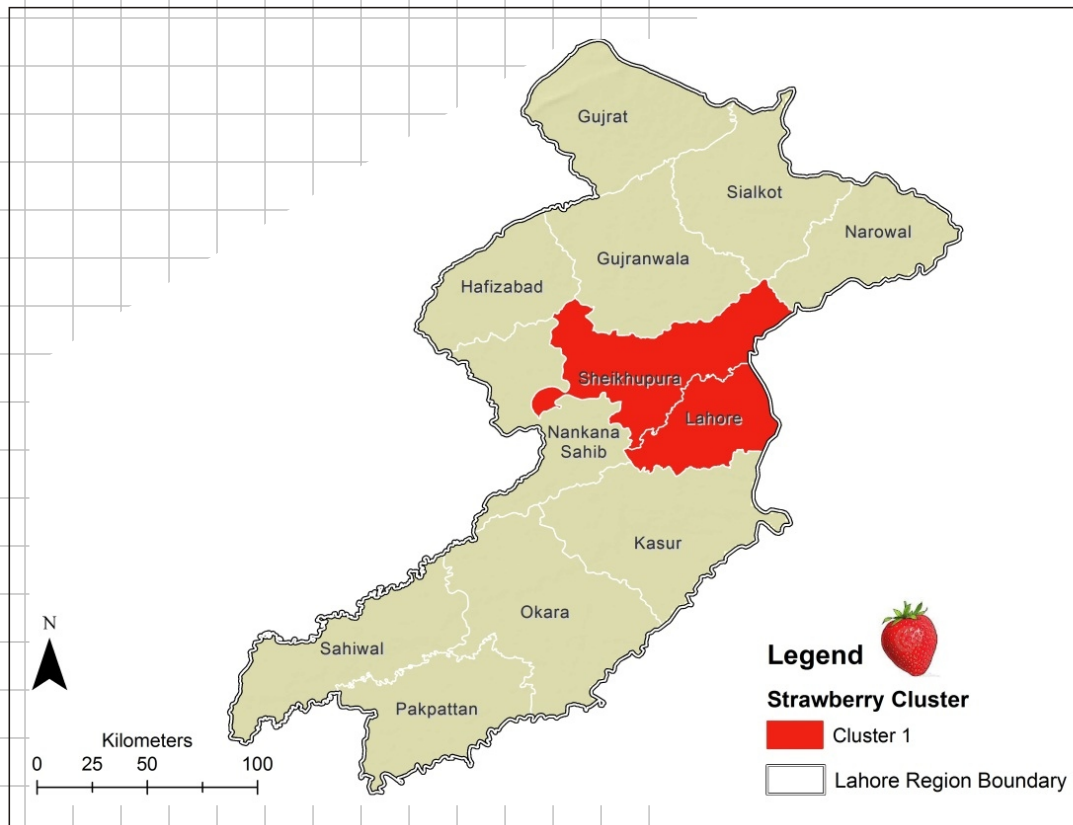
Guava Clusters



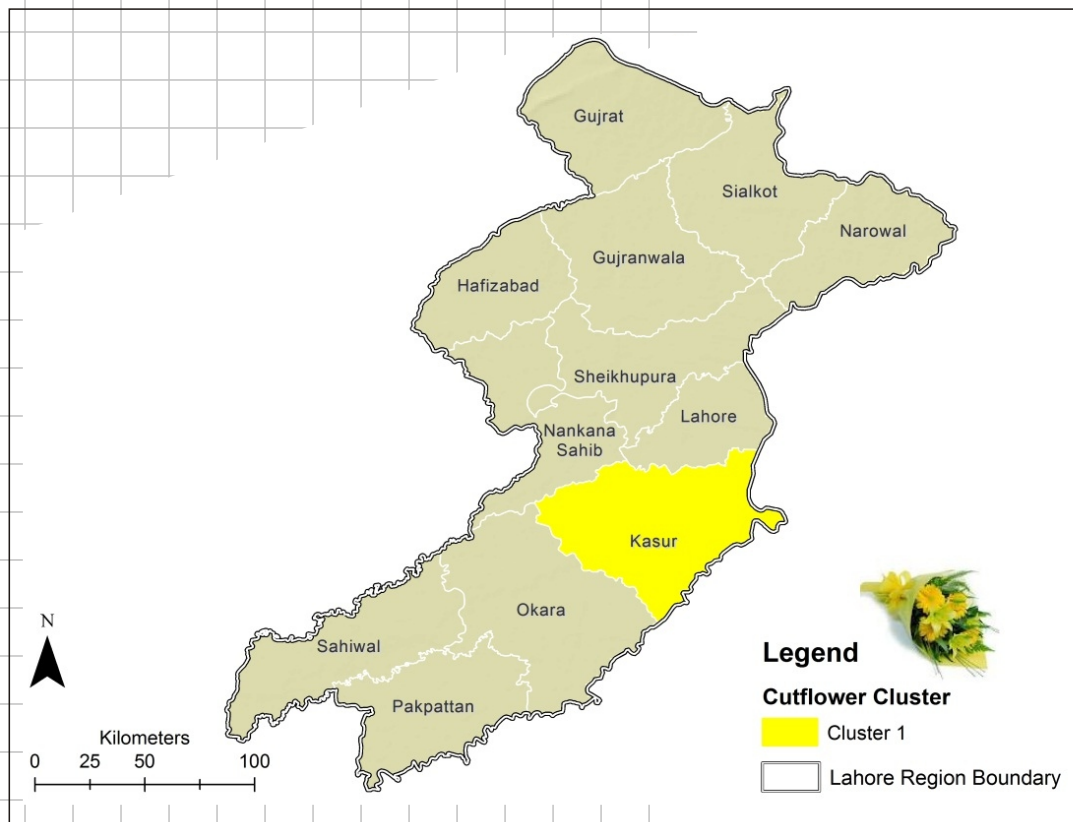
Citrus Clusters



## Strawberry Clusters

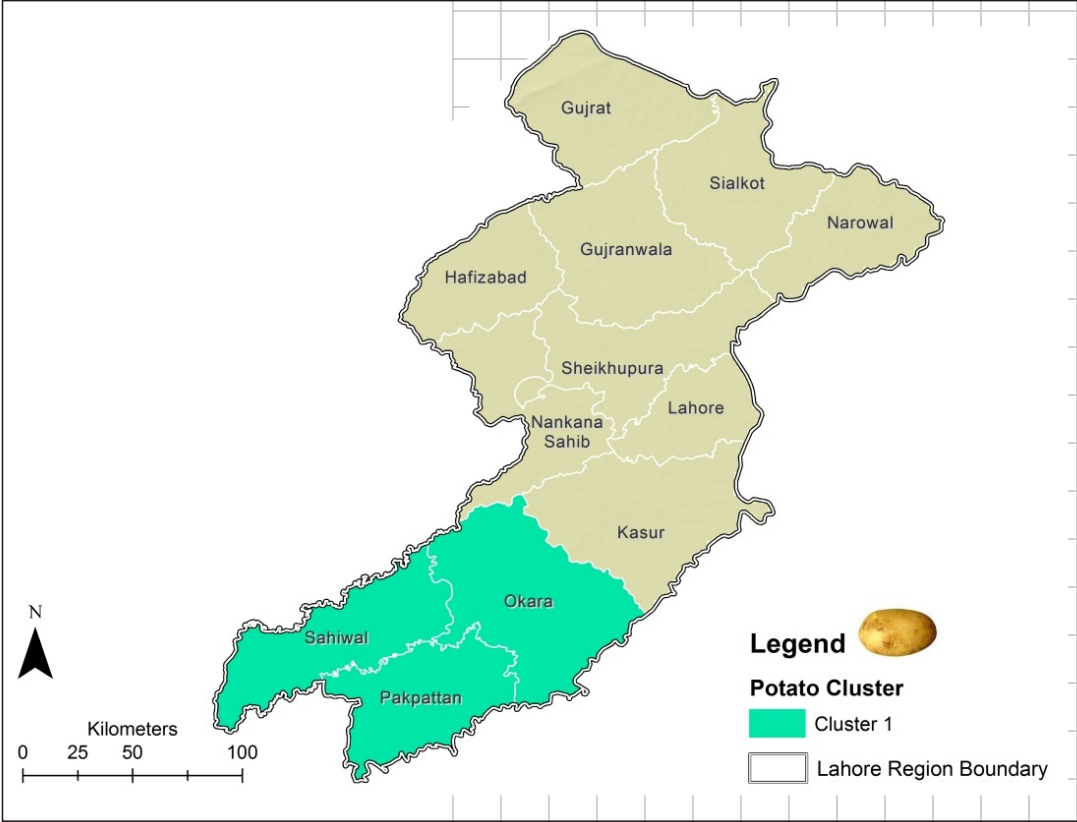


## Cutflower Cluster





Potato Clusters



# Methodology and Approach

The Participatory Rapid Horticultural Appraisal (PRHA) is one of the effective methodologies for exploring and gathering topical and focused information about a sub-sector system. Its advantages are to gather and analyse market information in a relatively short period of time employing less resource. The methodology provides for probing, analysis, and validation of information as they unfold during the field work.

The PRHA exercise allowed for a quick assessment of the sub-sector, including prioritization of value chains, identifying and prioritizing opportunities and relevant constraints impeding the realization of the opportunities as well as an assessment of the current state of the services provided by various facilitators to agribusinesses in the region. Further, linkages of the sub-sectors with local and national markets were also explored. The appraisal was conducted with a view to prepare the stage for focusing project intervention as well as for the project baseline and value chains benchmarking studies. The PRHA results will enable to prioritize value chains (validating the cluster approach), set benchmarks, and support establishment of a database to generate primary data on key indicators to be maintained and updated during the course of project implementation and afterwards supporting the planning, monitoring, evaluation and communication functions of the project.

The analysis of secondary data is based on the district-wise data on area and production for last ten years which was collected and tabulated as time series data. From these data, subset for Lahore Project Region was extracted which included 12 districts of Punjab. The selection of crop was based on groundwork done in the past by USAID/FIRM project to identify crops

based on cluster approach as indicative list of potential sub-sectors / value chains and priority value chain documented in the work plan. The district-wise secondary data on area, production for citrus and guava was tabulated from year 2005 to 2010. The major factors considered as important aspect for prioritization included; (i) the growth % rates share of commodity in world production Lahore Project Region share in national production; (ii) Lahore Project Region share in Punjab; (iii) productivity gap; (iv) employment intensity; and, (v) export potential based on incentive structure.

The primary appraisals were based on quantification of factors so that it can be measured on a scale for ranking/prioritization. Seven factors were applied in the appraisal included; (i) extent of employment generation; (ii) commercial worth; (iii) percentage of small farmers associated, (iv) women involvement; (v) households associated with the value chains; (vi) understanding growth potential; and, (vii) vulnerability of the concerned value chains.

The appraisal was carried out by the project region with the assistance of the project M&E/C unit and consultants retained to guide the team throughout the implementation of the appraisals. Covering 60% of the districts, the exercise was undertaken in the randomly selected settlement/villages within each cluster/region. Each focus group consisted of 10-15 stakeholders, a representative sample of sub-sector. In each district, 2-3 FGDs were carried out. The analysis of the information was consolidated at the project region level to draw conclusion and inferences.

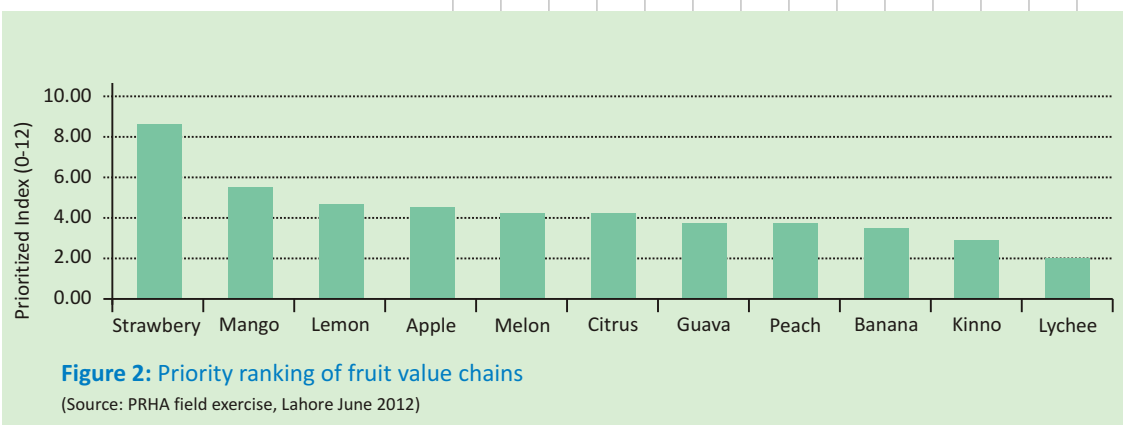
# Appraisal of Fruit Sub-Sectors

## Prioritization of value chains

The comparative appraisal is based on the composite index calculated based on the seven factors used in the grid analysis. The analysis of fruits places strawberry as the priority followed by mango, which although is not produced within geographical boundaries of Lahore Project Region in Figure 2, however a huge volume is traded through the Lahore's fruit market.

value chains. The fruit is commercially consumed both in fresh form and can be preserved for making Jam, Jellies and squashes that can be used in off-seasons.

Although, there is not significant number of mango orchards within the geographical boundaries of Lahore Project Region, however a huge volume is traded through the Lahore's fruit market. An increase of 25% in its production is perceived during the last five years. In mango fruit, losses were reported by around 20%.



As compared to other fruits, strawberry is a relatively new crop and is grown in Lahore and Sheikhupura districts of Punjab. A 100% increase in growth has been recorded in strawberry during the past five years in these districts. Strawberry is mostly grown by small farmers; as recorded during FGDs, 85% of the small farmers are associated with strawberry production. Strawberry culture is quite profitable for small land owners. The strawberry fruit is soft and perishable and its quality is affected when it touches the soil. Due to its short shelf life, careless picking, and improper packaging and transportation it has recorded highest percentage of losses (30%) among the five top ranking



Based on the analysis secondary information presented in the table below, it can be concluded that guava followed by citrus is the priority value chain in Lahore Project Region. The key clusters for the priority products are given in Table 2 below.

While, considering the data from PRHA, strawberry has also been included in the priority value chains for the Lahore Project Region along with guava and citrus.

**Table 2: Possible production clusters of fruit value chains**

Priority sub-sectors	Clusters/Districts	Total Production of the Cluster (Tons)	Percent Share in the Province (%)	Percent Share in the Country (%)
Citrus Lahore	Lahore, Sheikhupura, Nankana Sahib, Kasur	75,474	3.80	3.66
Citrus Sahiwal	Okara, Pakpattan, Sahiwal	146,880	7.39	7.13
Citrus Sialkot	Gujranwal, Hafizabad, Narowal, Sialkot, Gujrat	9,485	0.48	0.46
Gauva Lahore	Lahore, Sheikhupura, Nankana Sahib, Kasur	123,987	28.46	22.70
Gauva Sahiwal	Okara, Pakpattan, Sahiwal	78,775	18.08	14.43
Gauva Sialkot	Gujranwal, Hafizabad, Narowal, Sialkot, Gujrat	46,241	10.61	8.47

(Source: MINFA, Pakistan 2008-09 & FAO STAT 2010)

Table 3 below shows the secondary analysis of priority value chains in fruits of Lahore Project Region.

**Table 3: Priority value chains in fruits based on secondary analysis**

Fruits	Scores	Ranking
Guava	51%	1
Citrus	34%	2

(Source: PRHA activity, June 2012)



## Prioritized Opportunities

The study reveals that a number of opportunities exist in the region, which can catalyze the development of the sub-sector. These are listed in Table 4 of which the most important are processing centres, better post-harvest handling/ processing of fruit increasing demand and processing technologies etc. These opportunities can be further reinforced through the project interventions leveraged by primary-sector investments provided that a holistic and integrated approach is applied.

## Prioritized Constraints

Constraints to fruit value chains were also identified and prioritized by participants during the FGDs on the basis of their potential. Here is a list, which is self-explanatory.

The key constraints hampering the development of fruit sub-sector are listed in Table 5. Of significance are those are categorized as high in terms of its intensity. Some of the constraints mentioned can be in contradiction with the opportunities listed which indicate that the production of fruit and its marketing

**Table 4: Priority opportunities**

Priority opportunities	Rank
Processing centres	1
Better post-harvest handling/processing of fruit	2
Modern technologies (tunnel and drip)	3
Availability of cold storages and market infrastructure	4
Export centres	5

(Source: PRHA field exercise, Lahore June 2012)

**Table 5: Priority constraints**

Priority constraints	Intensity
Lack of cold chain facility and high cost of transportation	High
Lack of financial resources	High
Capacity building and awareness level of farmers	High
Weak international market linkages	High
High prices of farm inputs (seed, fertilizers, water, electricity)	High
Limited access to and affordability of modern technologies	High
Few processing units for fruits	High

(Source: PRHA field exercise, Lahore June 2012)



is in transition as a component of the farming system which has traditionally been subsistence oriented. Most constraints are cross-cutting and generic in nature which provides information on the overall sub-sector and some of the constraint can be considered as opportunities for investment by the project provided that willingness in the private sector for investment exists. These may include promotion of certification scheme for production of true to type fruit plants, promotion of business development services and encouraging processing and value addition.







# Appraisal of Floriculture

Secondary data on cut-flowers in the region is not available. However, as per information shared by Director floriculture of floriculture department, Lahore; Pattoki and other areas of Kasur district are the major producers of cut-flower upto 90% of the province. Gladiolas and rose are mainly cultivated in the region and sold locally. A very little percentage of the cut-flower produce is exported into gulf

specifically Dubai due to lack of processing facility and marketing channel. Pakistan is not self-sufficient in the production of cut-flowers and most of the time demand is fulfilled through imports of different cut-flowers like Lilium, Chrysanthemum, etc. There is a high demand in the country and lot of potential in the industry which if exploited can yield great profits.





# Appraisal of Vegetables Sub-Sectors

## Prioritization of value chains

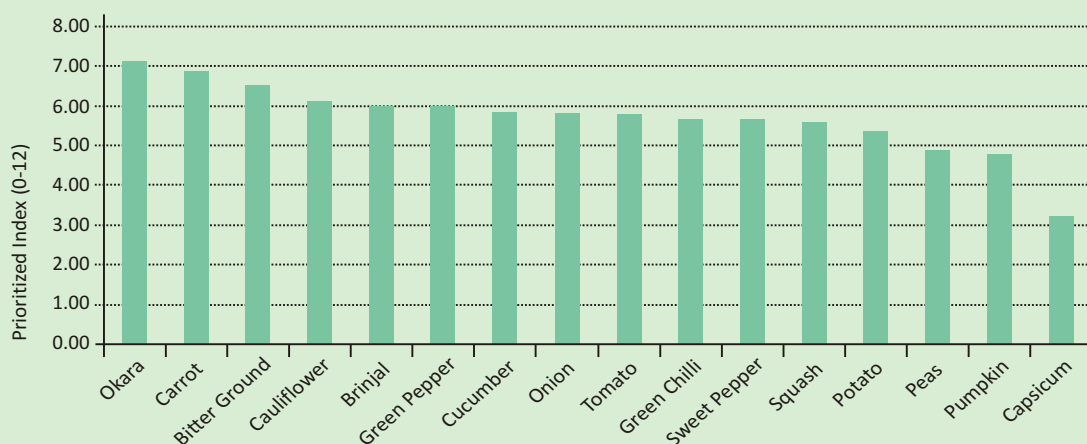
On the basis of primary data collected in PRHA, okra, carrot, bitter gourd, cauliflower, brinjal, green pepper and cucumber were the leading commodities in the vegetables sub-sector. The priority ranking of vegetables based on the rapid appraisal is shown in Figure 3 below.

In general all variety of vegetables are grown in almost all districts of Lahore Project Region, both in open and in tunnels for certain vegetables as well opportunity to fit to niches in the market in term of seasonality. Vegetables are mostly grown for commercial purposes as well as domestic utilization by producers. While potato and tomato leads in providing more employment opportunities, peas recorded considerably higher women involvement as compared to other top ranking vegetables. Bitter gourd leads the

priority ranking in terms of growth rate observed due to increasing demand in international markets. As regards vulnerability, comparatively more losses have been recorded in tomato and onion.

The secondary data reveals that the share of potato followed by tomato and onion in national and provincial production is quite high followed by and indicates the significance of these vegetables and highlights the need to provide support to improve their competitiveness.

The potato is highest cultivated vegetable crop in Lahore Project Region and confirms that more than half of Potato production in Punjab takes place in three districts Okara, Pakpattan and Kasur. On the other hand 57 % percent of National tomato production takes place in Lahore Project Region.



**Figure 3: Priority ranking of vegetables**

(Source: PRHA field exercise, Lahore June 2012)

to increasing demand in international markets. As regards vulnerability, comparatively more losses have been recorded in tomato and onion.

Major production clusters for vegetables in the region are given in Table 6 below.

districts Okara, Pakpattan and Kasur. On the other hand 57 % percent of National tomato production takes place in Lahore Region.

Thus, the analysis of secondary data places potato as the priority vegetable crop in Lahore region having the

**Table 6: Possible production clusters of vegetables value chains**

Priority Sub-sectors	Clusters/Districts	Total Production of the Cluster (Tons)	Percent Share in the Province (%)	Percent Share in the Country (%)
Tomato Lahore	Lahore, Sheikhupura, Nankana Sahib, Kasur	13,781	20.53	2.94
Tomato Sahiwal	Okara, Pakpattan, Sahiwal	5,840	8.70	1.20
Tomato Sialkot	Gujranwal, Hafizabad, Narowal, Sialkot, Gujrat	9,478	14.12	2.02
Onion Lahore	Lahore, Sheikhupura, Nankana Sahib, Kasur	50,623	5.90	2.71
Onion Sahiwal	Okara, Pakpattan, Sahiwal	24,370	2.84	1.30
Onion Sialkot	Gujranwal, Hafizabad, Narowal, Sialkot, Gujrat	18,578	2.17	0.99
Potatoes Lahore	Lahore, Sheikhupura, Nankana Sahib, Kasur	333062	15.40	14.29
Potatoes Sahiwal	Okara, Pakpattan, Sahiwal	1350329.2	62.42	57.93
Potatoes Sialkot	Gujranwal, Hafizabad, Narowal, Sialkot, Gujrat	140222	6.48	6.02
Chillies Lahore	Lahore, Sheikhupura, Nankana Sahib, Kasur	1390.85	16.34	7.41
Chillies Sahiwal	Okara, Pakpattan, Sahiwal	1824.4	21.43	9.72
Chillies Sialkot	Gujranwal, Hafizabad, Narowal, Sialkot, Gujrat	156.4	1.84	0.83

**Table 7: Prioritization of vegetables value chains based on secondary data**

Vegetables	Scores	Ranking
Potatoes	62%	1
Chillies	51%	2
Totatoes	50%	3
Onions	46%	4

The secondary data reveals that the share of potato followed by tomato and onion in national and provincial production is quite high followed by and indicates the significance of these vegetables and highlights the need to provide support to improve their competitiveness. The prioritized vegetables value chains based on secondary data can be seen in Table 7 above.

The Potato is highest cultivated vegetable crop in Lahore region and confirms that more than half of Potato production in Punjab takes place in three

productive potential and scale/size of economies as well as potential for enhancing productivity and profitability. Other crops including tomato and onion may also have the potential, while off-season seasonal vegetables production which may be cultivated at lower scales but are important for higher income potential these entail due to higher prices in the market during off-season.

## Prioritized Opportunities

Opportunities for vegetables related value chains were scored and ranked during the exercise.

The appraisal reveals that major priority opportunities are represented by the availability of processing centres, potential for processing/preservation and export, modern agricultural practices like tunnel farming, cold storage infrastructure and increasing market demand at international level. These opportunities are cross-cutting and investment in these will generate employment and income. Ranking of priority opportunities concerning vegetables is given in Table 8.

**Table 8: Priority opportunities**

Priority opportunities	Rank
Processing centers	1
Better post-harvest handling/ processing	2
Modern Technologies (Tunnel, Drip etc)	3
Availability of cold storages and market infrastructure	4
Export centers	5

(Source: PRHA field exercise, Lahore June 2012)





## Prioritized Constraints

Constraints to fruit value chains were also identified and prioritized by participants during the FGDs on the basis of their potential as High and Medium. Here is a list, which is self-explanatory.

The key constraints hampering the development of vegetables sub-sector are listed in Table 9. Most constraints are cross-cutting and generic in nature relevant to the sub-sector. The high ranking

constraints provide opportunities for investment which will not only generate income and employment but also act as drivers for the wider development of the sub-sector. However the key consideration for intervention in addressing the constraint should be private sector investors willing to partner with the project.

**Table 9: Priority constraints**

Priority constraints	Intensity
Lack of financial resources	High
Capacity building and awareness level of farmers	High
Weak international market linkages	High
High prices of farm inputs (Seed, fertilizers, water, electricity)	High
Limited access to and affordability of modern technologies	High
Processing and packing/packaging facilities	Medium
Transportation and cold chain facilities	Medium

(Source: PRHA field exercise, Lahore June 2012)



# State of the Services Provision

The availability and quality of business development services is important for the overall development of any sub-sector. The situation regarding to services provision for both fruit and vegetables was appraised together with focused groups. In most cases the linkages between service providers and users were

termed as weak to medium. To be effective in enhancing profitability of fruit growers, there is a need to build confidence and develop strong linkages of agribusiness with service providers. State of service provision can be seen in Table 10 below.

**Table 10: State of the service provision**

Service Providers	Linkages	Paid/Free	Services Provided
Agriculture Departments (Research, Extension etc.)	Weak to Medium	Free	Trainings, information, extension services.
Exporters	Weak	Cash	Value addition
Processors	Weak to Medium	Cash	Financial support in purchase of inputs like fertilizers, pesticide etc.
Market Agents	Medium to Strong	Cash & Credit	Facilitation regarding sale of produce
NGOs	Medium	Free & credit	Trainings and information, facilitation
Private seed, agro-chemical, and fertilizer companies	Medium to Strong	Cash	Provide inputs, timely supply of inputs on cash payment, awareness to the farmers

(Source: PRHA field exercise, Lahore June 2012)

# State of Market Linkages

Marketing of fruits and vegetables varies from commodity to commodity; however, generally, most of the produce is channelled to local and country markets. Some of the national markets relevant for the regional producers include Rawalpindi, Islamabad, Lahore, Peshawar and Karachi. Demand for fruits and vegetables do exist in the international markets (particularly Gulf countries) but that needs to be tapped after overcoming several constraints related to export.

Marketing of fruits and vegetables is characterized by the presence of numerous intermediaries performing at various distribution stages, thus adding to marketing costs and directly affecting the price received by the farmer and paid by the consumer. The domestic market players include farmers, commission agents, contractors, wholesalers, inter-market traders and many other retailers. In general, intermediaries dominate the system and there is little direct market participation of the farmers, particularly small farmers.

The existing marketing operations are performed by traditional way such as rough harvesting and handling methods, rudimentary grading, and poor quality packing which reduce its marketability, leading to lower prices in the market. The non-availability of refrigerated lorries/trucks to transport vegetables and fruits from farm to distant markets increases the spoilage rate and reduces the bargaining position of the sellers.

Absence of enabling policies favouring growers (particularly small farmers), ineffective approaches towards improving and sustaining product quality, and lack of reliable updated market information also impede farmers' ability to take maximum benefits they deserve. Lack of market information system has increased the complexity of the marketing system on one hand and brought less return to the farmers on the other. Strengthening market information system can play vital role in increasing returns to the growers of fruits and vegetables, which can ultimately improve the living standard of the rural population and bring prosperity in the country. Exports are considered as a means of surplus disposal mainly channelled from the wholesale markets. Exports endeavours need to be supported by a "grow-for-export" strategy. Again, a well-established market information system can play vital role in this connection.

A crude estimate of Nominal Protection Coefficient (NPC) indicates that farmers/ producers are getting very low price compared to export price, carrying a much better incentive structure. The low price or profit provides an opportunity to improve competitive advantage, meaning adopting good agriculture practices and marketing a better quality produce that compete and earn better income.



# Conclusion

The region represents a special case for opportunity and constraints to expand horticulture exports. The key constraints which are hampering the abilities of the sector include poor quality of the produce often failing to meet export standards; perishability of produce that requires efficient handling, low level of value addition and processing and marketing, resultantly poor performance of the sub-sectors as a whole. On the other hand LR offers a good potential, close proximity to growing markets (national and international), lower production cost due to cheap labour and availability of water provide good opportunities to grow a variety of products year round and to capture larger share of niche markets.

Based on the PRHA, the following summary conclusions can be drawn;

- Among the fruits guava, citrus and strawberry are the priority value chains of Lahore Project Region. These represent potential in terms of volumes, value and diversity while other products can be promoted as niche market opportunities. Among the vegetables, priority is associated with potato whereas many different other vegetables can be produced in the off-season.

- The prioritized value chain is not competing well in global markets as none of them are among top 20 on volume and value terms.

- For fruit and vegetables, to develop in the region, have to realize growth in volumes, however competition at domestic and world market would, in addition, need to invest in quality improvement.

- The productivity of fruits and vegetable as well as post-harvest losses are of special mention to be addressed. Productivity gap for most commodities under review range from 85 to 95 percent. Relatively lower productivity and poor quality of the produce makes Lahore region fruits and vegetable uncompetitive in export markets despite massive devaluation in the country's currency over the last five years. This also explains low or decreasing market share for horticulture crops in global markets. The post-harvest losses represent an opportunity to be tapped on.

- Lack of post-harvest infrastructure (cold chain, pack houses, poor packaging etc.) and logistics for maintaining the quality of the highly perishable fruits that carries poor physical market access, increasing input prices, poor coordination among stakeholders, lack of economies of scale and traditional practices are some of the constraint that impact the production of both fruit and vegetables.

# References

The secondary data in this report has been taken from and estimated based upon data given with the following sources:

1. Agriculture Statics of Pakistan
2. Economic Survey of Pakistan
3. FAO Database
  
4. **The Growth % rates**
  - 4.1 Crops area and production (by districts) 2004-2005 to 2008-2009, Government of Pakistan, Ministry of Food, Agriculture and Llivestock (MINFAL)
5. **Share of commodity in world production**
  - 5.1 Crops area and production (by districts) 2004-2005 to 2008-2009, Government of Pakistan, Ministry of Food, Agriculture and Livestock (MINFAL)
  - 5.2 Agriculture Statistics of Pakistan, 2009-10 and previous publications
  - 5.3 FAO Database 2012 accessed through internet
6. **Region Share in National Production**
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  - 7.2 Agriculture Statistics of Pakistan, 2009-10 and previous publications
8. **Productivity Gap**
  - 8.1 Crops area and production (by districts) 2004-2005 to 2008-2009, Government of Pakistan, Ministry of Food, Agriculture and Livestock, (MINFAL)
  - 8.2 FAO Database 2012 accessed through internet
9. **Employment Intensity**

Potential for labor per acre calculated as percentage of labor days of wheat (ADB) plus index derived by PRHA results at field survey in the region and information gathered from various reports.
10. **Export Potential as Measured by Incentive Structure**

FAO Database: The difference between export value of Pakistani produce and world export value (five years average ).

(Annexure are available at The Agribusiness Project Office Islamabad, and can be provided upon request for reference)







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